Standard .04B(2) – <u>Identification of Bed Need and Addition of Beds.</u>

Only medical/surgical/gynecological/addictions ('MSGA") beds and pediatric beds identified as needed and/or currently licensed shall be developed at acute care general hospitals.

(a) Minimum and maximum need for MSGA and pediatric beds are determined using the need projection methodologies in Regulation .05 of this Chapter.

(b) Projected need for trauma unit, intensive care unit, critical care unit, progressive care unit, and care for AIDS patients is included in the MSGA need projection.

(c) Additional MSGA or pediatric beds may be developed or put into operation only if:

(i) The proposed additional beds will not cause the total bed capacity of the hospital to exceed the most recent annual calculation of licensed bed capacity for the hospital made pursuant to Health-General §19-307.2; or

(ii) The proposed additional beds do not exceed the minimum jurisdictional bed need projection adopted by the Commission and calculated using the bed need projection methodology in Regulation .05 of this Chapter.

(iii) The proposed additional beds exceed the minimum jurisdictional bed need projection but do not exceed the maximum jurisdictional bed need projection adopted by the Commission and calculated using the bed need projection methodology in Regulation .05 of this Chapter and the applicant can demonstrate need at the applicant hospital for bed capacity that exceeds the minimum jurisdictional bed need projection; or

(iv) The number of proposed additional MSGA or pediatric beds may be derived through application of the projection methodology, assumptions, and targets contained in Regulation .05 of this Chapter, as applied to the service area of the hospital.

The proposed 93-bed hospital includes 54 new beds (36 MSGA, 12 obstetric and six psychiatric beds) and 39 licensed MSGA beds that will be relocated from Holy Cross Hospital in Silver Spring to the new hospital in Germantown. Of the 39 beds being relocated, physical space exists for only ten of those beds at Holy Cross Hospital. The consistency of this application with

the MSGA bed need projection standard is discussed below.

The State Health Plan bed need projections for Montgomery County for 2016 range from a minimum gross need forecast of 1,007 MSGA beds to a maximum gross need forecast of 1,289 MSGA beds. As of July 1, 2009, there are 1,094 licensed MSGA beds in Montgomery County. Hence, net MSGA bed need for Montgomery County in 2016 ranges from -87 to 195 beds.

Approval of this application will result in the addition of 36 new MSGA beds in Montgomery County and increase the number of MSGA beds to 1,130. While this is 123 beds above the minimum MSGA bed need projection for 2016 (1,007), it is 159 beds below the maximum MSGA bed need projection (1,289).

As related below, Holy Cross used two approaches to demonstrate need for 36 additional MSGA beds in its ESA. Under the first approach, Holy Cross demonstrated need by "application of the projection methodology, assumptions and targets in Regulation .05 of the [Acute Care] Chapter ... to the service area of the hospital" pursuant to Standard .04B(2)(c)(iv). Under the second approach, Holy Cross demonstrated "need at the applicant hospital for bed capacity that exceeds the minimum jurisdictional bed need projection" pursuant to Standard .04B(2)(c)(iii).

Bed Need Methodology #1

To demonstrate the need for 36 additional MSGA beds in the new hospital's ESA under Standard .04B(2)(c)(iv), Holy Cross applied the methodology used by the Commission to calculate jurisdictional bed need to the new hospital's ESA in ten years.[1] As shown in Exhibit 1, this methodology projects need for a minimum of 60 and a maximum of 117 additional MSGA beds to serve the Germantown ESA in 2018, based on the following variables and methodology:

[1] Holy Cross used 2018 as the target year because the Acute Care Chapter methodology uses a target year that is ten years after the base year. COMAR 10.24.10.05A. Because the base year used in this analysis is 2008, a target year is 2018.

- 1998- 2008 population for ages 15-64 and 65+ based on the 1990 census, the 2000 census and the 2009 Claritas population estimates.

- 1998-2008 discharge and days for MSGA patients discharged from Maryland hospitals grouped by ages 15-64 and 65+

- Use rates and ALOS by age cohort and year calculated from the population, discharge and day data

- Annual change for use rate and ALOS calculated from the use rate and ALOS figures

- Average annual change for previous five years (sum of annual change divided by five) of use rates and ALOS

- Average annual change for previous ten years (sum of annual change divided by ten) of use rates and ALOS

- Low use rate and ALOS for each age cohort was calculated using the lower of the two results (5 years vs. 10 years) as the growth rate for ten years (difference between year 2008 and 2018) beginning with the 2008 use rate and ALOS

- High use rate and ALOS for each age cohort was calculated using the higher of the two results (5 years vs. 10 years) as the growth rate for ten years (difference between year 2008 and 2018) beginning with the 2008 use rate and ALOS

- High and low use rates and ALOS were multiplied by 2018 estimated population (extrapolated based on growth projections between 2009 and 2014) to calculate a low and high number of days for the area)

- Average daily census was determined by dividing patient days by 365

- Bed need was determined by dividing average daily census by .75 (assuming 75 percent occupancy)

As related in Exhibit 1, ESA residents are projected to need a minimum of 60 additional MSGA beds in 2018. This minimum projection, of course, is significantly greater than the 36 new MSGA beds that Holy Cross proposes to implement at the new hospital in Germantown.

In the original application, Holy Cross allocated some of the need for additional MSGA beds to serve ESA residents to Shady Grove Adventist Hospital ("SGAH"), based on the number of patient days that would be experienced in the 215 MSGA beds awarded to SGAH in the

Commission's 2005 decision (62,736/365/.8 = 214.85). *See, In the Matter of Shady Grove Adventist Hospital*, Docket No. 04-15-2138 (January 21, 2005). However, MSGA patient days at SGAH in FY09 (64,953) exceed the number of MSGA patient days reserved pursuant to the Commission's 2005 decision (62,736). Hence, none of the need identified in Exhibit 1 has been reserved for SGAH.

Bed Need Methodology #2

In assessing need for MSGA beds in the new hospital's ESA under Standard .04B(2)(C)(iii), Holy Cross multiplied the FY09 hospital discharge use rate for patients residing in the new hospital's ESA from all Maryland hospitals by the population growth projected for the ESA between 2009 and 2018.[2] As shown in Table 2 below, this methodology demonstrates that, in 2018, the average daily census of inpatients from the ESA age 15 and older receiving inpatient MSGA care is projected to be 74.4 patients greater than the number of ESA residents receiving inpatient care in FY09 (296.5–222.1=74.4). Assuming 75% occupancy, based on the Acute Care Chapter assumption that MSGA occupancy at a hospital with between 50 and 99 MSGA beds should be 75%, 99 additional MSGA beds will be needed to serve the 74 additional patients per day from the new hospital's ESA needing inpatient care in 2018.

[2] The use rate in this analysis only includes admissions to Maryland hospitals. Outmigration to Washington, D.C. and immigration to the new hospital's proposed ESA are excluded.

Table 2
MSGA Discharges and Patient Days for the Expected ESA
FY 2009
Projected to 2018

Zip Code	Name	Population				FY09 Discharges to all Maryland Hospitals		FY09 Patient Days		FY09 ALOS		FY09 Discharges/1,000		2018 Discharges		2018 Patient Days	
		2009 15-64	2009 65+	2018 15-64	2018 65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+
20837	Poolesville	4,318	491	4,448	895	206	117	709	579	3.44	4.95	47.71	238.29	212	214	730	1,057
20838	Barnesville	153	34	148	48	4	8	7	26	1.75	3.25	26.14	235.29	4	11	7	36
20839	Beallsville	300	56	328	88	7	17	15	55	2.14	3.24	23.33	303.57	8	27	16	86
20841	Boyds	3,328	496	4,730	985	225	129	750	519	3.33	4.02	67.61	260.08	320	256	1,066	1,030
20842	Dickerson	1,353	272	1,502	392	60	76	176	359	2.93	4.72	44.35	279.41	67	109	195	517
20850	Rockville	28,086	6,029	33,285	9,197	1,027	1,518	3,964	7,541	3.86	4.97	36.57	251.78	1,217	2,316	4,698	11,503
20851	Rockville	10,220	1,698	10,848	2,300	402	268	1,564	1,281	3.89	4.78	39.33	157.83	427	363	1,660	1,735
20853	Rockville	18,200	4,626	17,349	5,524	718	1,011	2,741	4,668	3.82	4.62	39.45	218.55	684	1,207	2,613	5,574
20855	Derwood	11,566	1,805	11,525	2,929	383	375	1,244	1,818	3.25	4.85	33.11	207.76	382	609	1,240	2,950
20871	Clarksburg	4,737	841	6,049	1,602	257	128	895	597	3.48	4.66	54.25	152.20	328	244	1,143	1,137
20872	Damascus	8,448	982	8,471	1,623	455	312	1,849	1,625	4.06	5.21	53.86	317.72	456	516	1,854	2,685
20874	Germantown	40,699	2,765	44,043	6,132	1,736	687	6,628	3,611	3.82	5.26	42.65	248.46	1,879	1,524	7,173	8,008
20875	Germantown					18	8	55	46	3.06	5.75	N/A	N/A	19	13	58	75
20876	Germantown	16,561	1,367	17,950	2,605	713	250	2,985	1,299	4.19	5.20	43.05	182.88	773	476	3,235	2,476
20877	Gaithersburg	22,498	3,948	22,883	5,180	1,033	1,012	4,272	4,805	4.14	4.75	45.92	256.33	1,051	1,328	4,345	6,304
20878	Gaithersburg	43,530	4,747	44,600	9,020	1,360	960	5,094	5,106	3.75	5.32	31.24	202.23	1,393	1,824	5,219	9,702
20879	Gaithersburg	17,982	1,717	18,045	3,163	763	391	3,003	1,913	3.94	4.89	42.43	227.72	766	720	3,014	3,524
20882	Gaithersburg	10,268	1,375	10,905	2,456	366	286	1,311	1,361	3.58	4.76	35.64	208.00	389	511	1,392	2,431
20886	Montgomery Village	21,126	2,913	19,953	4,346	954	536	3,812	2,771	4.00	5.17	45.16	184.00	901	800	3,600	4,134
	Total	263,373	36,162	277,060	58,485	10,687	8,089	41,074	39,980	3.84	4.94	40.58	223.69	11,274	13,067	43,259	64,967
	Total of All Age Groups						18,776		81,054						24,341		108,225
	ADC								222.1								296.5
	Occupancy Rate								0.75								0.75
	Beds Needed								296.1								395.3
	Net Beds Needed																99.3

In assessing need under Standard .04B(2)(C)(iii), Holy Cross also multiplied the FY09 hospital discharge use rate for patients residing in the ESA for the five acute care hospitals in Montgomery County by the population growth projected for the ESA between 2009 and 2018. As shown in Table 3 below, this methodology demonstrates that, in 2018, the average daily census of inpatients from the ESA age 15 and older receiving inpatient MSGA care at a Montgomery County hospital is projected to be 68 patients greater than the number of ESA residents receiving inpatient care in FY09 (264.7–196.7=68.0). Assuming 75% occupancy, 91 additional MSGA beds will be needed to serve the 68 additional patients per day of the new hospital's ESA needing inpatient care in 2018 (68/.75 = 90.6).

In sum, whether based on all Maryland hospitals or just the five hospitals in Montgomery County, the impact of population growth in the ESA demonstrates need for far more additional MSGA beds than the 36 requested in this application.

Table 3
MSGA Discharges and Patient Days for the Expected ESA
FY 2009
Projected to 2018

		Population				FY09 Discharges to all Mont Cty Hospitals		FY09 Patient Days		FY09 ALOS		FY09 Discharges/1,000		2018 Discharges		2018 Patient Days	
Zip Code	Name	2009 15-64	2009 65+	2018 15-64	2018 65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+
20837	Poolesville	4,318	491	4,448	896	171	104	552	503	3.23	4.84	39.60	211.81	176	190	569	918
20838	Barnesville	153	34	148	48	2	4	2	5	1.00	1.25	13.07	117.65	2	6	2	7
20839	Beallsville	300	56	328	88	6	16	14	52	2.33	3.25	20.00	285.71	7	25	15	82
20841	Boyds	3,328	496	4,730	985	203	116	692	408	3.41	3.52	61.00	233.87	289	230	984	810
20842	Dickerson	1,353	272	1,502	392	39	46	107	209	2.74	4.54	28.82	169.12	43	66	119	301
20850	Rockville	28,086	6,029	33,285	9,197	945	1,482	3,553	7,267	3.76	4.90	33.65	245.81	1,120	2,261	4,211	11,085
20851	Rockville	10,220	1,698	10,848	2,300	369	255	1,393	1,184	3.78	4.64	36.11	150.18	392	345	1,479	1,604
20853	Rockville	18,200	4,626	17,349	5,524	636	971	2,220	4,497	3.49	4.63	34.95	209.90	606	1,159	2,116	5,370
20855	Derwood	11,566	1,805	11,525	2,929	339	362	1,080	1,642	3.19	4.54	29.31	200.55	338	587	1,076	2,665
20871	Clarksburg	4,737	841	6,049	1,602	215	103	715	501	3.33	4.86	45.39	122.47	275	196	913	954
20872	Damascus	8,448	982	8,471	1,623	327	238	1,090	1,138	3.33	4.78	38.71	242.36	328	393	1,093	1,880
20874	Germantown	40,699	2,765	44,043	6,132	1,560	638	5,817	3,333	3.73	5.22	38.33	230.74	1,688	1,415	6,295	7,392
20875	Germantown					14	8	45	46	3.21	5.75	N/A	N/A	15	13	48	75
20876	Germantown	16,561	1,367	17,950	2,605	649	237	2,675	1,235	4.12	5.21	39.19	173.37	703	452	2,899	2,354
20877	Gaithersburg	22,498	3,948	22,883	5,180	958	993	3,825	4,736	3.99	4.77	42.58	251.52	974	1,303	3,890	6,214
20878	Gaithersburg	43,530	4,747	44,600	9,020	1,205	897	4,182	4,607	3.47	5.14	27.68	188.96	1,235	1,704	4,285	8,754
20879	Gaithersburg	17,982	1,717	18,045	3,163	660	376	2,568	1,856	3.89	4.94	36.70	218.99	662	693	2,577	3,419
20882	Gaithersburg	10,268	1,375	10,905	2,456	313	271	998	1,279	3.19	4.72	30.48	197.09	332	484	1,060	2,285
20886	Montgomery Village	21,126	2,913	19,953	4,346	870	511	3,294	2,480	3.79	4.85	41.18	175.42	822	762	3,111	3,700
	Total	263,373	36,162	277,060	58,485	9,481	7,628	34,822	36,978	3.67	4.85	36.00	210.94	10,007	12,286	36,742	59,868
	Total of All Age Groups						17,109		71,800						22,292		96,609
	ADC								196.7								264.7
	Occupancy Rate								0.75								0.75
	Beds Needed								262.3								352.9
	Net Beds Needed																90.6

EXHIBIT 1

Germantown ESA Discharges, Inpatient Days, ALOS for Age Groups 15 to 64 and 65+, Calendar Years 1997-2008

	Population		CY Discharges*		CY Inpatient days*		CY ALOS*		Use Rate (discharges/1000 pop)		Annual change Use rate	Use rate	ALOS	ALOS
	15-64	65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+	15-64	65+
1998	224,591	23,012	7,559	5,341	30,478	32,032	4.03	6.00	33.66	232.10				
1999	228,726	24,141	7,852	5,606	31,903	34,370	4.06	6.13	34.33	232.22	2.0%	0.1%	0.8%	2.2%
2000	232,936	25,325	8,135	5,821	33,079	33,861	4.07	5.82	34.92	229.85	1.7%	-1.0%	0.1%	-5.1%
2001	236,136	26,347	8,371	6,175	33,757	33,572	4.03	5.44	35.45	234.37	1.5%	2.0%	-0.8%	-6.5%
2002	239,380	27,411	9,127	6,339	34,639	33,922	3.80	5.35	38.13	231.26	7.6%	-1.3%	-5.9%	-1.6%
2003	242,669	28,518	9,308	6,653	35,142	34,302	3.78	5.16	38.36	233.29	0.6%	0.9%	-0.5%	-3.7%
2004	246,003	29,669	9,451	7,046	34,994	36,300	3.70	5.15	38.42	237.49	0.2%	1.8%	-1.9%	-0.1%
2005	249,383	30,867	9,644	7,200	34,837	35,256	3.61	4.90	38.67	233.26	0.7%	-1.8%	-2.4%	-5.0%
2006	252,809	32,113	9,525	7,306	34,792	34,308	3.65	4.70	37.68	227.51	-2.6%	-2.5%	1.1%	-4.1%
2007	256,283	33,410	10,308	7,752	39,004	37,694	3.78	4.86	40.22	232.03	6.8%	2.0%	3.6%	3.5%
2008	259,804	34,759	10,288	7,909	39,632	38,768	3.85	4.90	39.60	227.54	-1.5%	-1.9%	1.8%	0.8%
Average Annual change (5 year)											0.69%	-0.48%	0.43%	-0.96%
Average Annual change (10 years)											1.68%	-0.18%	-0.42%	-1.94%

Bed Need for Germantown ESA - 75% occupancy

	15-64	65+	Total	ADC	Beds	Increment
2008 days	39,632	38,768	78,400	214	286	
2018 pop	277,060	58,485				
Low use rate	42.42	216.87				
Low ALOS	3.69	4.03				
Low days	43,394	51,096	94,490	259	345	60
High use rate	46.80	223.38				
High ALOS	4.02	4.45				
High days	52,136	58,177	110,314	302	403	117

Source: population data for 1990 and 2000 from SRC. Population for 2009 and 2014 projected is Claritas data from Thomson Reuters
Population for 1998 and 1999 is extrapolated based on the CAGR between 1990 and 2000.
Population for 2001 through 2008 is extrapolated based on the CAGR between 2000 and 2009. Population for 2018 is extrapolated based on the growth rate between 2009 and 2014
Discharge data for all discharges excluding obstetrics and psych is Maryland discharge database provided by SMA Informatics; excludes rehab hospitals